Docket No.: HERLA Appl. No.: 10/820,441

AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

- 1. (Currently amended) A spindle unit for a machine tool, comprising:
 - a drive unit having a drive shaft;
 - a spindle head assembly having a hollow spindle head shaft driven by the drive unit;
 - a tie rod arranged for axial displacement in the hollow spindle head shaft between rearward and forward positions and mechanically detachably coupled with the drive shaft;
 - a collet placed in a pocket of the spindle head shaft and interacting with the tie rod to clamp a tool, when the tie rod assumes the rearward position, and to expel the tool, when the tie rod assumes the forward position;
 - a bearing assembly supporting the drive shaft; and
 - a shifting unit for moving the bearing assembly in axial direction to thereby displace the drive shaft together with the tie rod between the rearward and forward positions.

wherein the spindle head assembly and the drive unit are positioned in axially successive relationship and detachably connected to one another to allow an exchange of the tool, while the spindle unit rotates.

- 2. (Canceled)
- 3. (Original) The spindle unit of claim 1, wherein the spindle head shaft has one end facing the drive shaft and constructed as a spline shaft, said drive shaft having an end face constructed as a hollow wheel to complement the one end of the spindle head shaft and to enable coupling therewith.
- 4. (Original) The spindle unit of claim 1, wherein the drive shaft has a central bore for transporting a material, said tie rod having a tube extending into the central bore and being removable thereform.

Docket No.: HERLA Appl. No.: 10/820,441

5. (Currently amended) [[A]] The spindle unit for a machine tool of claim 1, comprising:

a drive unit having a drive shaft;

a spindle head assembly constructed for receiving a tool and having a hollow spindle head shaft driven by the drive unit;

a tie rod arranged for axial displacement in the hollow spindle head shaft and mechanically coupled with the drive shaft; and

a shifting unit for axially moving the drive shaft together with the tie rod, wherein the tie rod has a central bore for transporting lubricant, said drive shaft having a tube extending into the central bore and being removable thereform.

- 6. (Original) The spindle unit of claim 1, wherein the drive shaft is constructed in one piece with the tie rod.
- (Previously presented) The spindle unit of claim 1, wherein the drive unit includes an electric motor having a rotor mounted on the drive shaft for conjoint displacement with the drive shaft.
- 8. (Original) The spindle unit of claim 7, wherein the electric motor includes a stator which completely surrounds the rotor independent of a displacement position of the shifting unit.
- 9. (Canceled)
- 10. (Previously presented) The spindle unit of claim 1, wherein the drive shaft has opposite ends, said bearing assembly having a bearing sleeve for support of one end of the drive shaft, and another bearing sleeve for support of the other end of the drive shaft.

Docket No.: HERLA Appl. No.: 10/820,441

11. (Original) The spindle unit of claim 1, wherein the shifting unit is constructed for operation by one of hydraulic means, pneumatic means, and electromechanical means.

12. (Original) The spindle unit of claim 1, wherein during operation of the spindle unit, the shifting unit is controlled so as to cause the drive shaft to axially contact the tie rod, and further comprising a sensing device constructed for measuring an axial position of the drive shaft and thereby implementing an indirect measurement of an axial position of the tie rod.

13.-14. (Canceled)

15. (Previously presented) The spindle unit of claim 1, wherein the spindle head assembly is disposed in coaxial relationship to the drive unit.